

Sine Law 5.3 p283-290

$$\frac{\sin \angle A}{a} = \frac{\sin \angle B}{b} = \frac{\sin \angle C}{c}$$

$$\frac{\sin \angle A}{a} = \frac{\sin \angle B}{b}$$

$$\frac{a}{\sin \angle A} = \frac{b}{\sin \angle B}$$

- non-right triangles
- need matching pair (determine scale of triangle)

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$180 - (45 + 35)$   
 $180 - (80)$   
 $\angle A = 100$  (sum of int  $\Delta$ )

$$\frac{\sin \angle B}{b} = \frac{\sin \angle C}{c}$$

$$\frac{\sin 45}{8} = \frac{\sin 35}{c}$$

$$\sin 45(c) = \sin 35(8)$$

$$c = \frac{\sin 35(8)}{\sin 45}$$

$$c = \frac{(0.5736)(8)}{(0.7071)}$$

$$= 6.5$$

$\frac{\sin \angle B}{b} = \frac{\sin \angle A}{a}$   
 $\frac{\sin 45}{8} = \frac{\sin 100}{a}$   
 $\sin 45(a) = \sin 100(8)$   
 $a = \frac{\sin 100(8)}{\sin 45}$   
 $a = \frac{0.9848(8)}{0.7071}$   
 $a = 11.1$

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Sine Law p288-290

$9, 3a, 4$   
 $90 - 13$

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24cm longer  
 $180 - (38 + 38)$   
 $= 180 - 76$   
 $= 104$

$$\frac{\sin \angle B}{b} = \frac{\sin \angle A}{a}$$

$$\frac{\sin 38}{x} = \frac{\sin 38}{x+24}$$

$$\sin 38(x+24) = \sin 38 x$$

$$(0.6157)(x+24) = (0.6157)x$$

$$0.6157x + 14.8 = 0.6157x$$

$$14.8 = 0.6157x - 0.6157x$$

$$14.8 = 0.3837x$$

$$0.3837x = 14.8$$

$$38.6 = x$$

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